Amendments to the Claims:

1. (currently amended) A method of estimating channel order of a bounded length channel having at most L non zero taps located within an M symbol time interval, said method comprising the steps of:

calculating ~~estimated channel taps~~ a channel estimate over a plurality of bursts using a channel length of M taps to yield estimated channel taps;

calculating tap energies of said estimated channel taps;

averaging said tap energies over time to generate average tap energies;

selecting a threshold in accordance with a noise floor estimate calculated using the lowest M-L average tap energies;

setting said channel order to ~~the~~ a number of average tap energies N above said threshold; and

wherein L, M and N are positive integers.

2. (currently amended) The method according to claim 1, wherein said step of calculating said ~~estimated channel taps~~ channel estimate is performed using a least squares technique.

3. (currently amended) The method according to claim 1, wherein said step of calculating said ~~estimated channel taps~~ channel estimate is performed using a correlation technique.

4. (currently amended) The method according to claim 1, wherein said estimated channel taps are represented as ~~zero mean~~ zero-mean, complex, Gaussian random processes.

5. (previously amended) The method according to claim 1, wherein said estimated channel taps are represented as non zero-mean, complex, Gaussian random processes.

6. (previously amended) The method according to claim 1, wherein said estimated channel taps vary over time.

7. (currently amended) A method of calculating an estimate of a bounded length channel having at most L non zero taps located within M symbol time intervals, said method comprising the steps of:

calculating ~~estimated channel taps~~ a channel estimate over a plurality of bursts using a channel length of M taps to yield estimated channel taps;

calculating ~~the~~ tap energies of said estimated channel taps;

averaging said tap energies over time to generate average tap energies;

selecting a threshold in accordance with a noise floor estimate calculated using the lowest M-L average tap energies;

~~selecting~~ Setting a channel order to ~~be~~ a number of average tap energies N that are ~~larger than~~ above said threshold;

refining said estimated channel taps by recalculating the channel estimate utilizing said channel order; and

wherein L, M and N are positive integers.

9 8. (currently amended) The method according to claim 8 7, wherein said step of calculating said ~~estimated channel taps~~ channel estimate is performed using a least squares technique.

10 9. (currently amended) The method according to claim 8 7, wherein said step of calculating said ~~estimated channel taps~~ channel estimate is performed using a correlation technique.

11 10. (currently amended) The method according to claim 8 7, wherein said estimated channel taps are represented as ~~zero mean~~ zero-mean, complex, Gaussian random processes.

12 11. (currently amended) The method according to claim 8 7, wherein said estimated channel taps are represented as non ~~zero mean~~ zero-mean, complex, Gaussian random processes.

13 12. (previously amended) The method according to claim 8 7, wherein said estimated channel taps vary over time.

14 13. (currently amended) A cellular radio receiver for receiving and decoding a transmitted cellular signal, comprising:

a radio frequency (RF) receiver circuit for receiving and downconverting said transmitted cellular signal to a baseband signal;

a demodulator adapted to demodulate said baseband signal in accordance with the modulation scheme used to generate said transmitted cellular signal;

an equalizer comprising signal processing means programmed to:

estimate ~~the~~ a channel order of a bounded length channel having at most L non zero taps located within an M symbol time interval;

calculate ~~estimated channel taps~~ a channel estimate over a plurality of bursts using a channel length of M taps to yield estimated channel taps;

calculate ~~the~~ tap energies of said estimated channel taps;

average said tap energies over time to generate average tap energies;

select a threshold in accordance with a noise floor estimate calculated using the lowest M-L average tap energies;

~~select~~ set said channel order to a number of average tap energies N that are ~~larger than~~ above said threshold;

a channel decoder adapted to decode the output of said equalizer ~~so as~~ to generate a decoded output data signal; and

wherein L, M and N are positive integers.

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~~14~~. (original) The receiver according to claim ~~13~~ 14, further comprising a speech decoder operative to convert said decoded output data signal to an audible speech signal.

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~~15~~. (previously amended) The receiver according to claim ~~13~~ 14, wherein said signal processing means is programmed to further refine said estimated channel taps by recalculating said channel estimate utilizing said channel order.

7 method
~~16~~. (previously amended) The ~~receiver~~ according to claim 1, further comprising the step of refining said estimated channel taps by recalculating said channel estimate utilizing said channel order.

17. (currently amended) The receiver according to claim ~~13~~ 14, wherein said equalizer is adapted to calculate said ~~estimated channel taps~~ channel estimate utilizing a least squares technique.

18. (currently amended) The receiver according to claim ~~13~~ 14, wherein said equalizer is adapted to calculate said ~~estimated channel taps~~ channel estimate utilizing a correlation technique.

19. (currently amended) The receiver according to claim ~~13~~ 14, wherein said estimated channel taps are represented as ~~zero-means~~ zero-means, complex, Gaussian random processes.

20. (previously amended) The receiver according to claim ~~13~~ 14, wherein said estimated channel taps are represented as non zero-mean, complex, Gaussian random processes.

21. (previously amended) The receiver according to claim ~~13~~ 14, wherein said estimated channel taps vary over time.

22. (original) The receiver according to claim ~~13~~ 14, wherein said equalizer comprises means for performing a maximum likelihood sequence estimation (MLSE) technique.

23. (original) The receiver according to claim ~~13~~ 14, wherein said equalizer comprises means for performing a sub-optimal complexity reduced maximum likelihood sequence estimation (MLSE) technique.

24. (original) The receiver according to claim ~~13~~ 14, wherein said equalizer comprises means for performing a decision feedback equalization (DFE) technique.

25. (original) The receiver according to claim ~~13~~ 14, wherein said receiver is adapted to receive and decode a global system for mobile communications (GSM) cellular signal.

26. (currently amended) In a communications receiver coupled to a bounded length channel having a plurality of non zero taps located within a plurality of symbol time intervals, a method of estimating channel order, said method comprising the steps of:

calculating ~~estimated channel taps~~ a channel estimate over a plurality of bursts using a channel length comprising a first number of taps to yield estimated channel taps;

averaging over time tap energies of said estimated channel taps to generate average tap energies;

selecting a threshold in accordance with a noise floor estimate calculated using a predetermined number of the lowest average tap energies; and

setting said channel order equal to ~~the~~ a number of average tap energies above said threshold.

27. (currently amended) The method according to claim 26, wherein said step of calculating said ~~estimated channel taps~~ channel estimate is performed using a least squares technique.

28. (currently amended) The method according to claim 26, wherein said step of calculating said ~~estimated channel taps~~ channel estimate is performed using a correlation technique.

29. (currently amended) The method according to claim 26, wherein said estimated channel taps are represented as ~~zero-mean~~ zero-mean, complex, Gaussian random processes.

30. (previously amended) The method according to claim 26, wherein said estimated channel taps are represented as non zero-mean, complex, Gaussian random processes.

31. (previously amended) The method according to claim 26, wherein said estimated channel taps vary over time.

32. (currently amended) ~~A computer program product for use in a communications receiver coupled to a bounded length channel, for estimating channel order of said channel having a plurality of non zero taps located within a plurality of symbol time intervals, said computer program product comprising:~~ A computer readable storage medium having a computer program embedded therein for causing a suitably programmed system to estimate the order of a channel having a plurality of non zero taps located within a plurality of symbol time intervals, by performing the following steps when said computer program is executed on said system:

~~a computer usable medium having computer readable program code means embodied in said medium for estimating the order of said channel having a plurality of non zero taps located within a plurality of symbol time intervals, said computer usable medium having:~~

~~computer readable program code means for causing said computer to calculate estimated channel taps~~ calculating a channel estimate over a plurality of bursts using a channel length comprising a first number of taps to yield estimated channel taps;

~~computer readable program code means for causing said computer to average~~ averaging tap energies over time, said tap energies determined from said estimated channel taps;

~~computer readable program code means for causing said computer to select~~ selecting a threshold in accordance with a noise floor estimate calculated using a second number of lowest average tap energies; and

~~computer readable program code means for causing said computer to set~~ setting said channel order ~~equal~~ to ~~the~~ a number of average tap energies above said threshold.